DETAILED ACTION

Claim Status

Claims 1-3, 6, and 8-10 are pending. Claims 4-5 and 7 are cancelled.

Acknowledgements

Receipt of the amendment and remarks/arguments filed on 6/16/09 is acknowledged

Claim Rejections - 35 USC § 112

The rejection of claim 5 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention is withdrawn in light of applicant's amendments.

New Rejections

The following rejection constitutes new grounds for rejection necessitated by amendment.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the

art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-3, 6, and 8-10 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The amendments of independent claim 1 do not comply with the written description requirement and introduce new matter into the patent application. Claim 1 recites, "wherein the polyol is present in the emulsion in an amount ranging from about 50 to about 98 wt%..." However, the examiner finds no support for this limitation in the instant specification. The examiner notes that on pg. 10, lines 4-7 of the instant specification, applicant states that the polyol is generally in the range of from 20-60 wt.%, preferably in the range of from 30-50 wt.%, and more preferably from 35-45 wt.% (relative to the total weight of the emulsion). Thus, applicant does not have support for the entire claimed range of 50-98 wt.% of polyol. The examiner notes that applicant has support for the aqueous phase of the emulsion varying in the range from 50-98 wt.% (see pg. 10, lines 13-15). However, the examiner notes that it is not clear from the instant claims whether the entire aqueous phase is made up of polyol. As such, burden is on applicant to prove that there is explicit support for the limitation regarding the amount of polyol.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-3, 6, and 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dalle et al (US Patent No. 6,013,682) in view of Kasprzak (US Patent No. 5,443,760).

Dalle et al teach a method of making a silicone in water emulsion and teach that the s/w emulsions produced have a wide variety of silicone volume fractions, particle sizes, and molecular weights, including novel materials having large volume fractions of the silicone and large particles containing high molecular weight silicone gums (column 1, lines 58-67; column 2, lines 1-6). The silicone wax produced is a divinyldimethicone/dimethicone copolymer resulting from the reaction of polysiloxane and at least one organosilicon material that reacts with the polysiloxane by a chain reaction in the presence of a metal containing catalyst for said chain extension reaction (column 2, lines 15-27; examples). Dalle et al further teach that the mixture used to

form the emulsion also contains at least one surfactant, which can include glycols, such as polyethylene glycol, polypropylene glycol, and diethylene glycol (column 4, lines 51-55). These surfactants can be used in an amount of 1-30 wt% based on the total weight of the composition (column 5, lines 43-46). The emulsion composition is formed by mixing the silicone reaction, water, and surfactant to form a coarse water in oil mixture (column 5, lines 56-60). Accordingly, the mixture is emulsified and inverted into a silicone in water emulsion. Dalle et al teach that the emulsifier, Laureth-3 and Laureth-23 are added to the emulsion in examples 1-5, which are used an amount of approximately 3 wt.%. According to the instant specification, preferred emulsifiers are ethoxylated lauryl alcohol (Laureth), pg. 11, lines 28-29. The emulsions according to Dalle et al can be useful for a personal care applications such as on hair, skin, mucous, teeth, etc (column 7, lines 8-27). Dalle et al teach that emulsions can be used in hair shampoos, hair conditioners, hair sprays, mousses, permanents, etc. Moreover, Dalle et al teach that the waxes can be incorporated in the personal care products in an amount of 0.1 to 25 wt.% of the personal care product (column 7, lines 27-30) and the total amount of water is generally between about 1-99 wt.% (column 6, lines 34-36).

Dalle et al do not disclose an emulsion with an oily component further comprising suitable oils, such as silicone oils. Furthermore, Dalle et al do not teach an emulsion comprising the polyol, glycerin.

Kasprzak teaches oil-in-water emulsions comprising an oil phase with volatile and non-volatile silicone oils (column 1, lines 52-59). According to Kasprzak, these emulsions can comprise 0.1-60 wt.% of silicone oil or silicone gum (column 8, lines 3-7).

Like Dalle et al, the emulsion comprises propylene glycol in its aqueous phase. In addition to propylene glycol, Kasprzak also teaches that glycerin, hexylene glycol, glucose, lactic acid, etc can be used as humectants (column 5, lines 38-46). Furthermore, Kasprzak teaches the incorporation of emollients oil including natural oils, such as, coconut oil, almond oil, corn oil etc (column 5, lines 48-65).

Therefore, it would have been obvious to an artisan of ordinary skill at the time the invention was made to add both silicone oils and natural oils to the oily component in the emulsion of Dalle et al. One would have been motivated to do so because silicone oils and natural oils are also used in oil-in-water emulsions, as suggested by Kasprzak. Furthermore, one would have been motivated to do so because the combined ingredients of silicone wax and silicone oils/natural oils as the oily component of the oil-in-water emulsion would result in a complementary or possibly synergistic effect. It is prima facie obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose.... [T]he idea of combining them flows logically from their having been individually taught in the prior art." *In re Kerkhoven, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980)* (see MPEP 2144.06).

Furthermore, it would have been obvious to an artisan of ordinary skill at the time the invention was made to combine the teachings above and utilize the polyols of Dalle et al or Kasprzak. One would have been motivated to do so since Kasprzak teaches that the instant humectant and Dalle's surfactant are both humectants added to the aqueous phase of oil-in-water emulsion. Thus, one would have been motivated to

substitute the instant humectant (glycerin) into the composition of Dalle et al with an expectation of similar results since Kasprzak teaches the equivalency of the polyols.

Regarding the amount of silicone waxes, silicone oils, and emulsifiers in the instant claims, Dalle et al teach that the emulsifiers (Laureth-3 and Laureth-23) are taught in amount of about 3 wt.%. Furthermore, Dalle et al teach that the silicone wax can be incorporated in personal care products in an amount of 0.1 to 25 wt.% of the total weight of the product. Kasprzak et al teach that the silicone oils can be present in an amount from 0.1-60 wt.%. Thus, the amount of the silicone wax, silicone oil, and emulsifer encompass and/or nearly touch the instantly claimed amounts. Regarding the amount of polyol, Dalle et al teach that polyols can be present in an amount of 1-30 wt.% not 50-98 wt.% as specified in the instant claim. However, it would have been obvious to an artisan of ordinary skill at the time the invention was made to modify and optimize the amounts of the ingredients taught in the oil-in-water emulsion. Optimization of parameters is a routine practice that would be obvious to a person of ordinary skill in the art to employ and reasonably expect success. One would have been motivated to determine the optimal amount of each ingredient in order to best achieve the desired results, which ultimately depends on the desired use of the emulsion. See *In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955)* & MPEP 2144.05. Burden is on applicant to prove the criticality of the claimed ranges. Additionally, the examiner notes that "about" precedes all the amounts of the claimed components in the emulsion (i.e., the polyol is present in the emulsion in an amount ranging from about 50 to about 98 wt.%). As such, the examiner directs applicant's attention to MPEP

2111.01. Since applicant has not defined the term "about" to mean exactly, "about 50 to about 98 wt.%" is given latitude.

Regarding the limitations directed to the viscosity of the emulsion and the refractive indexes of both the aqueous phase and oily component, burden is on applicant to prove that the suggested emulsion of Dalle and Kasprzak does not meet these limitations. It is the position of the examiner that these limitations would be obvious expected properties of the emulsion. Since the examiner does not have access to laboratory equipment, the examiner can shift the burden to applicant to prove otherwise.

Regarding the oil-in-water emulsion being transparent, Dalle et al and Kasprzak et al are silent as to whether the emulsion is clear or cloudy. However, it is the position of the examiner that this limitation would be an obvious expected property of the emulsion because the combination of Dalle et al and Kasprzak et al suggest an emulsion with the same components as the instant application. Since the examiner has no access to laboratory equipment, burden is shifted to applicant to prove otherwise as *In re Fitzgerald, 619 F.2d 67, 205 USPQ 594 (CCPA 1980).* Furthermore, the examiner notes that Dalle et al teach fine particle sizes, such as 8.5 microns, 5 microns, 13 microns, 2.2 microns (see examples 4-6) that are encompassed by particle sizes in the instant specification. According to the instant specification, particle sizes of sprayable oil-like formulations are in the range from about 0.3 -10 microns (pg. 5, lines 1-6). An artisan of ordinary skill knows that such fine particle sizes result in clear emulsions. Thus, since the instant application and Dalle et al teach similar particle sizes, the

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examiner has no reason to believe that Dalle et al modified by Kasprzak et al teaches a cloudy emulsion. Moreover, since the instant method of making the emulsion is just a simple process of mixing (see example 1 in the specification) and Dalle et al teach mixing in conjunction with inversion, there is nothing in the method of making the emulsions that suggests Dalle et al is not teaching a clear emulsion.

Regarding the limitation that the oil-in-water emulsion has to be sprayable, Dalle et al clearly teach that the emulsion can be used in personal care products, such as hair sprays.

Response to Arguments

Applicant's arguments filed 6/16/09 have been fully considered but they are not persuasive.

Applicant argues that there is no teaching or suggestion of a transparent oil-in-water emulsion recited in the present claims wherein the refractive index of the aqueous phase does not differ more than about 0.003 from the refractive index of the oil phase. Applicant further argues that the nonionic surfactants recited by Dalle are not the same as the polyols recited by the present claims and there is clearly no teaching or suggestion that a polyol should or could be included to adjust the refractive index of the aqueous phase. Additionally, applicant contends that there is no teaching or suggestion in Dalle of an emulsifier selected from an ethoxylated or propoxylated fatty alcohol or silicone oils present in the emulsion recited by the present claims. Furthermore, applicant argues that Dalle fails to teach or suggest an oil-in-water emulsion having a

viscosity of less than 100 mPas measured with a plate/cone rotation rheometer at a constant shear rate of 500 s-1.

In response to applicant's arguments regarding the viscosity, transparency, and refractive index of the emulsion rendered obvious by Dalle and Kasprzak, the examiner contends that applicant has not shown that the prior art fails to meet these limitations. Since the examiner has no access to laboratory equipment, it is the position of the examiner that the combination of Dalle and Kasprzak teaches the obvious emulsion of the instant claims and as such, the instant limitations regarding viscosity, transparency, and refractive index of the emulsion would be obvious expected properties of the composition. Additionally, the examiner notes that Dalle teaches fine particle sizes, such as 8.5 microns, 5 microns, 13 microns, 2.2 microns (see examples 4-6) that are encompassed by particle sizes in the instant specification. According to the instant specification, particle sizes of sprayable oil-like formulations are in the range from about 0.3 -10 microns (pg. 5, lines 1-6). An artisan of ordinary skill knows that such fine particle sizes result in clear emulsions. Thus, since the instant application and Dalle teaches similar particle sizes, the examiner has no reason to believe that Dalle modified by Kasprzak teaches a cloudy emulsion. Furthermore, since Dalle teaches that its emulsions can be incorporated into hairsprays, it would be expected that the viscosity of the emulsion would be lower to ensure that it could be sprayed. Moreover, it would be obvious to an artisan of ordinary skill at the time the invention was made to lower the viscosity depending on the desired use of the emulsion and to achieve a sprayable composition.

In regard to applicant's argument that Dalle does not teach the instant polyol, the examiner notes that Dalle teaches polypropylene glycol and that all the instant claims are based on the combination of Dalle and Kasprzak not Dalle alone. Although Dalle does not teach the instant polyol (i.e., glycerin), one would be motivated to add glycerin as a humectant to the composition of Dalle because Kasprzak teaches a silicone containing oil-in-water emulsion and a humectant is a conventional cosmetic ingredients that provides moisturization. As such, one would be motivated to add glycerin to the composition of Dalle, which is directed towards lotions, makeup, hair care compositions, in order to impart more moisturization to these compositions. Additionally, even though Dalle does not teach that the polyol is added to adjust the refractive index of the aqueous phase, it is the position of the examiner that since the addition of a polyol is obvious, the adjusted refractive index would be an obvious expected property.

In regard to applicant's argument that there is no teaching or suggestion in Dalle of an emulsifier selected from an ethoxylated or propoxylated fatty alcohol or silicone oils present in the instant emulsion, the examiner notes that Dalle teaches that Laureth-23 can be added to it emulsion. As evidenced by chemicalregister.com, Laureth-23 is ethyoxylated C14 fatty alcohol (also see instant specification pg. 11, lines 28-29). As such, Dalle clearly teaches an ethoxylated fatty alcohol. Additionally, although Dalle does not teach the addition of silicone oils, the examiner notes that Dalle was combined with Kasprzak to teach the obvious incorporation of silicone oils. The examiner reminds applicant that one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642

F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Regarding Kasprzak, applicant further argues that the examiner has failed to provide support for this conclusion that the combined ingredients of silicone wax and silicone oils as the oily component of the oil-in-water emulsion would result in a complementary or possibly synergistic effect. Additionally, applicant argues that Kasprzak fails to cure the deficiencies of Dalle since there is no teaching or suggestion of the transparent, sprayable oil-in-water emulsion having the properties recited by the present claims.

In response to applicant's arguments regarding Kasprzak, the examiner disagrees with applicant that no support for the conclusion was given for the obvious incorporation of silicone oils. Since Kasprzak and Dalle teach that silicone waxes as well as silicone oils can be incorporated in the oil phase of oil-in-water emulsions, an artisan of ordinary skill would be motivated to add both silicone waxes and silicone oils to the oil component of the emulsions of Dalle. The examiner directs applicant's attention to MPEP 2144.06, wherein, "It is prima facie obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose.... [T]he idea of combining them flows logically from their having been individually taught in the prior art." *In re Kerkhoven, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980).*

Regarding applicant's argument that Kasprzak fails to cure the deficiencies of Dalle, the examiner notes that the arguments regarding Dalle are addressed above and they are incorporated herein.

As such, it is the position of the examiner that the instant claims are rendered obvious over Dalle in view of Kasprzak.

Conclusion

Claims 1-3, 6, and 8-10 are rejected. No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RACHAEL E. WELTER whose telephone number is (571) 270-5237. The examiner can normally be reached 7:30-5:00 Monday-Friday.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sharmila Landau can be reached at 571-272-0614. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

REW

/Lakshmi S Channavajjala/
Primary Examiner, Art Unit 1611
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